

Claims

- [c1] 1. A substrate, comprising:
 - a dielectric structure;
 - an interconnection structure interlacing inside the dielectric structure; and
 - a solder mask covering the dielectric structure, wherein the solder mask has a coefficient of thermal expansion substantially equal to the dielectric structure contacting the solder mask.
- [c2] 2. The substrate according to claim 1, wherein the material of the solder mask is epoxy resin.
- [c3] 3. The substrate according to claim 1, wherein the material of the solder mask is bismaleimide-triazine.
- [c4] 4. The substrate according to claim 1, wherein the solder mask further covers the interconnection structure, the solder mask having at least one opening to expose the interconnection structure.
- [c5] 5. The substrate according to claim 1, wherein the solder mask has the same material as the dielectric structure contacting the solder mask.

- [c6] 6. A substrate, comprising:
 - a dielectric structure;
 - an interconnection structure interlacing inside the dielectric structure; and
 - a solder mask covering the dielectric structure, wherein the glass transition temperature of the material used for manufacturing the solder mask is over 200 degree C.
- [c7] 7. The substrate according to claim 6, wherein the solder mask further covers the interconnection structure, the solder mask having at least one opening to expose the interconnection structure.
- [c8] 8. The substrate according to claim 6, wherein the material of the solder mask is epoxy resin.
- [c9] 9. The substrate according to claim 6, wherein the material of the solder mask is bismaleimide-triazine.
- [c10] 10. A method of fabricating a solder mask, suitable for forming the solder mask onto a semifinished substrate, the semifinished substrate including a dielectric structure and an interconnection structure, the interconnection structure interlacing inside the dielectric structure, the method comprising the steps of:
 - forming the solder mask onto the semifinished substrate;

forming a metal layer onto the solder mask;
patterning the metal layer to form at least one metal-layer opening passing through the metal layer, the metal-layer opening exposing the solder mask;
patterning the solder mask to form at least one solder-mask opening passing through the solder mask, the metal-layer opening connecting with the solder-mask opening; and
removing the metal layer.

- [c11] 11. The method according to claim 10, wherein after the solder mask is formed onto the semifinished substrate, the metal layer is formed onto the solder mask.
- [c12] 12. The method according to claim 10, wherein after the metal layer is formed onto the solder mask, the solder mask is formed onto the semifinished substrate .
- [c13] 13. The method according to claim 10, wherein the metal layer is formed onto the solder mask using a heat press process, using a sputter process, using an evaporation process, using an electroless plating process or using an electroplating process.
- [c14] 14. The method according to claim 10, wherein the material of the metal layer includes copper.
- [c15] 15. The method according to claim 10, wherein the

thickness of the metal layer ranges from 2 microns to 20 microns.

- [c16] 16. The method according to claim 10, wherein the material of the solder mask is the same as that of the dielectric structure contacting the solder mask.
- [c17] 17. The method according to claim 10, wherein the material of the solder mask is epoxy resin or bismaleimide-triazine.
- [c18] 18. The method according to claim 10, wherein the solder-mask opening is formed by a laser or plasma.
- [c19] 19. The method according to claim 10, wherein the solder mask has a coefficient of thermal expansion substantially equal to the material of the dielectric structure contacting the solder mask.
- [c20] 20. The method according to claim 10, wherein the glass transition temperature of the material used for manufacturing the solder mask is over 200 degree C..
- [c21] 21. A method of fabricating a solder mask, suitable for forming the solder mask onto a semifinished substrate, the semifinished substrate including a dielectric structure and an interconnection structure, the interconnection structure interlacing inside the dielectric structure,

the method comprising the steps of:
forming the solder mask onto the semifinished substrate; and
patterning the solder mask to form at least one solder-mask opening passing through the solder mask using a laser drill process, the solder-mask opening exposing the interconnection structure.

- [c22] 22. The method according to claim 21, wherein the material of the solder mask is the same as that of the dielectric structure contacting the solder mask.
- [c23] 23. The method according to claim 21, wherein the material of the solder mask is epoxy resin or bismaleimide-triazine.
- [c24] 24. The method according to claim 21, wherein the solder mask has a coefficient of thermal expansion substantially equal to the dielectric structure contacting the solder mask.
- [c25] 25. The method according to claim 21, wherein the glass transition temperature of the material used for manufacturing the solder mask is over 200 degree C.